Panasonic

ideas for life

P2HD

AVC-INTRA DVCPRO HD DVCPRO 50 DVCPRO DV

Official Worldwide Olympic Partner

PLUG INTO

P2HD Meets Emerging HD Needs for Tomorrow's Broadcasting and Video Production

This new HD production system is based on a high-speed, large-capacity, solid-state memory device, the latest HD imaging technology, and advanced Panasonic engineering. Dubbed the P2HD Series, the new HD/SD multi-format production system records onto the P2 (Professional Plug-in) card. This solid-state memory device provides the P2HD Series with outstanding reliability, high transfer speeds, excellent rewritability, and extended recording times with the recording capacity of the new 16-GB or 32-GB P2 card. The P2HD Series is also the world's first* to support the latest HD codec, AVC-Intra. In addition to its DVCPRO HD mode, the use of this advanced new codec brings higher image quality and longer recording times to the P2HD Series, in a wide product line that meets the needs of broadcasting, moviemaking and professional video production. The P2HD Series has no transport mechanism, saves maintenance cost, improves reliability, and is designed for easy reuse to aid global conservation. While responding to emerging needs, the P2HD Series brings a host of solutions to the future of broadcasting and video production.

*Applicable products: AJ-HPX3000, AJ-HPX2000, AJ-HPX2100 and AJ-HPM100.

D THE FUTURE

With its high reliability, large capacity and fast data transfers

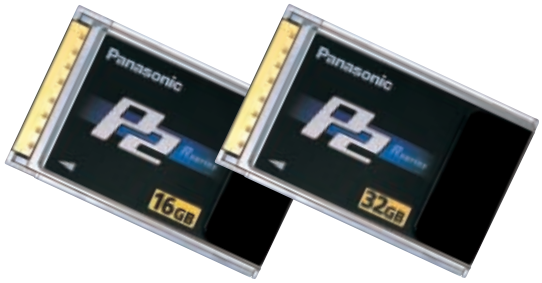
The P2 card reduces production costs and time for higher operating efficiency

High Reliability Supports Creativity

Image disturbances can be caused by condensation due to temperature changes, vibration and impact, while recording/playback heads can be clogged by dust and other particles. These problems, which often occur under harsh video production conditions, are eliminated by recording onto the P2 card.

The P2 HD being used in Alaska. Because no condensation or head clogging occurs with P2 equipment, it offers reliable operation under extremely harsh shooting conditions.

The P2 card withstands impacts up to 1,500 G and vibrations up to 15 G, operates in temperatures from –20 to 60°C, and can be stored in temperatures from –40 to 80°C. The P2 card's rugged specifications ensure reliable recordings under harsh conditions and enhance newsgathering mobility. Because solid-state memory requires no transport mechanism, it eliminates the possibility of condensation or clogging that occurs with tapes. Because data is saved in files, there is no risk of accidentally overwriting valuable data. Multi-card slots prevent roll change errors. And, in addition to instant startup and quick access, the P2HD Series offers a wealth of functions, such as Pre-Rec, that ensure reliable recording of critical moments. With its superb reliability and performance, the P2HD Series lets you record smoothly under rigorous field conditions and provides powerful support to creative video production.



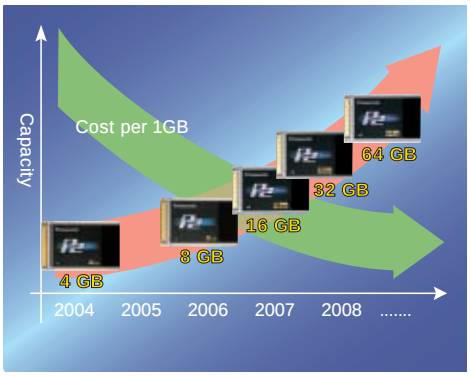
Up to 64 Minutes* of HD Recording on a Single 32-GB P2 Card

When it was first developed, the P2 card had a recording capacity of 4 GB. Since then, its capacity has doubled each year to the current 16 GB. In 2007, Panasonic plans to release a 32-GB P2 card, again doubling the previous capacity. A single 32-GB P2 card will store 32 minutes of HD data in DVCPRO HD or AVC-Intra 100 mode, or up to 64 minutes* in AVC-Intra 50 mode.

With solid-state memory capacity increasing year by year, the recording capacity of the P2 card will also grow while its cost per GB drops. In this way, the P2 card will continue to evolve toward greater ease and efficiency.

*When AVC-Intra compatible products (AJ-HPX3000, AJ-HPX2000, AJ-HPX2100, AJ-HPM100) are used in AVC-Intra 50 mode.

P2 card Roadmap



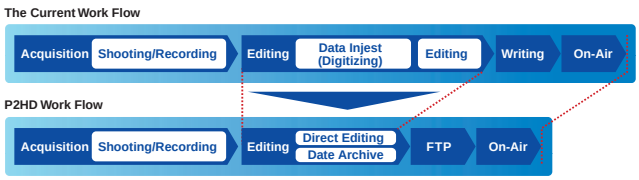
*4GB card does the production end.

High-Speed Data Transfer to IT Systems Boosts Operating Efficiency

Files are saved onto the P2 card in MXF format. This allows direct data transfers to IT-based broadcasting and production systems configured with nonlinear editors and network servers. P2 equipment also comes with USB 2.0 and IEEE 1394 interfaces to support both Windows and Mac systems. The P2 card mounts* directly to the PC card slot of a laptop PC. In addition to file-based recording, the P2 card boasts fast access and data transfer speeds, enabling direct on-card editing. Nonlinear editing can also begin without digitizing or other time-consuming operations. Further, editing can be performed while transferring or saving recordings to a hard disk or other archiving system in the background. These features significantly reduce program production times, decrease the size of production crews, save labor, and increase cost benefits to operation and management.

*A P2 card driver (downloadable for free) is required to transfer data to a PC.

Work Flow Comparison



P2 Means Lower Costs and Less Environmental Impact

The P2 card's outstanding rewritability lowers operating costs. When a card is full, simply download the files to a hard disk and use it again. P2 cards can be rewritten tens of thousands of times, and have passed insertion/removal tests of more than 30,000 cycles. Compared to tapes and discs, the P2 card means substantially less consumption, resulting in great savings in media costs as well as environmental benefits. There's also no transport mechanism in a P2 recorder,* so there are fewer consumable parts to replace and longer intervals between maintenance. Power consumption is much lower too. Add these factors up, and you can see that P2 offers major advantages in both operating costs and environmental impact.

*Excluding the AG-HVX200 with internal DV drive.

P2HD 5-year Free-Repair Warranty Program

The P2HD five year warranty repair program further enhances the P2 card's outstanding reliability and durability, and helps to reduce running costs. Once you purchase an applicable model (indicated by a mark on the catalog's product introduction pages), simply register it at Panasonic's Website to be eligible for maximum five year warranty repair service.

1st year	2nd year	3rd year	4th year	5th year
Basic warranty	"No cost" extended warranty repair			

Purchase P2 product

Register online

"Registration Complete" e-mail sent

*Please note that this program is not available in some countries and regions. The standard warranty period may vary depending on the country or region. Not all repair work is covered by this extended warranty. The maximum warranty period may be adjusted depending on the hours of use. Details about user registration and the program: http://panasonic.biz/sav/pass_e

High-Speed Transfer and Use of Metadata over the IT Infrastructure

P2HD Revolutionizes the Broadcasting and Video Production Workflow

P2 Makes IT an Integral Part of the News Production Workflow

Many broadcasting stations are transitioning from tape-based news gathering and broadcasting equipment to IT (file-based) systems using nonlinear editors and network servers. The conversion, however, is often not smoothly accomplished because it requires time- and labor-intensive digitizing of tape recordings. The P2 card solves this problem by applying IT methods right from the recording process.

In addition to quick recording startups, P2 allows hot swapping and provides a text memo and shot marker function for added convenience in recording. In broadcast and production operations, the P2 mobile can be used for viewing, editing (creating playlists) and on-air transmission. You can also plug a P2 card into a laptop* and transfer data via FTP. The P2 driver can connect directly to a PC network or nonlinear editor in a broadcasting station. The USB 2.0/IEEE 1394b interface allows fast transfer of P2 files to both Windows PCs and Mac.

* A P2 card driver (supplied with the product) must be installed on the laptop. The driver works with Windows Vista, Windows XP, Windows 2000 and Mac OS X.

Metadata and Proxy Files Offer New Solutions

SD card slots further expand the possibilities. On a Windows PC, you can create a metadata file containing the camera operator's name, program name, location and a text memo or other information, and add it to a video file via an SD card. Using this file together with a low-resolution proxy file lets you take advantage of PC and IT functions to perform convenient operations such as transferring data over a network or searching for metadata information.

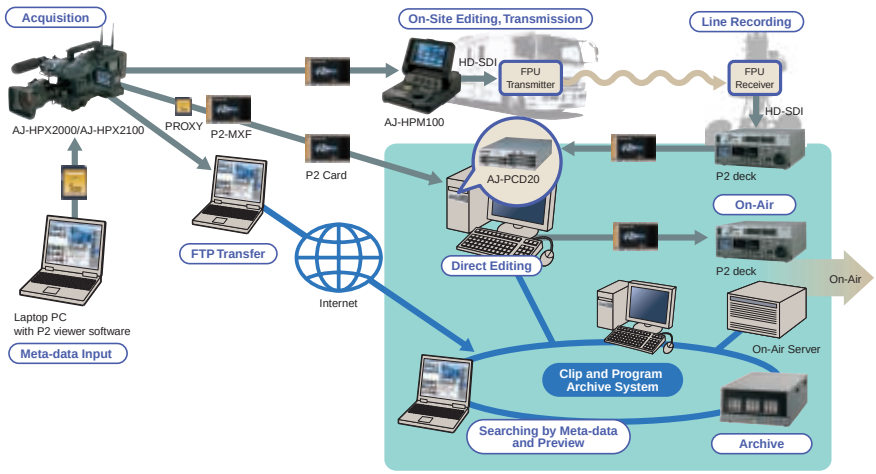
An archive system can be easily constructed by uploading P2 files to a source-data server. This allows an ordinary PC to conduct searches based on metadata and preview proxy video clips via the network. The system can be used for both on-air and recorded data, so valuable video assets that would never be utilized if they were stored on tape can be put to effective use.

Low-resolution proxy files can be quickly transferred and copied, for on-air transmission of news bulletins or for preliminary offline editing on a laptop PC before the full, high-resolution data arrives. This streamlines the workflow even more.

News Workflow with P2HD

The P2HD Series lets you build a broadcasting system that maximizes IT performance in all stages, from news gathering to on-air transmission. When recording, a variety of information is registered as metadata in P2HD files and proxy files. Recordings can then be transmitted to a station by FPU from a broadcast van equipped with the P2 mobile or delivered on a P2 card. Prior to the data's arrival, low-resolution proxy files can be transferred by FTP over the Internet for on-air broadcasting of news bulletins, program scheduling, or off-line editing.* All recordings are archived so network terminals inside the station can search for and preview them based on metadata.

*P2 Proxy editing support: GrassValley EDIUS Broadcast series v4.5

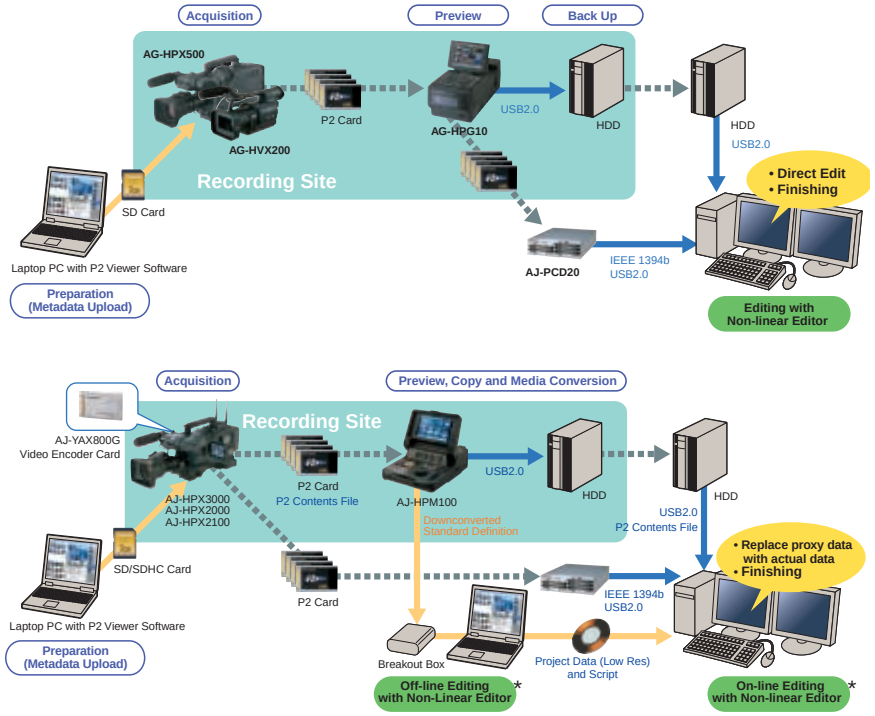


Program Production Workflow with P2HD

The P2HD Series helps reduce the time and cost of producing TV programs. Because P2HD stores recordings in a file format, it does not require digitizing as a VTR does. Video files can be uploaded to a nonlinear editor by simple drag 'n drop. Source data can be easily managed with IT equipment by using the metadata attached to each file as a tag.

The AJ-HPX3000 also supports full-HD (1920 x 1080) 10-bit/4:2:2 recording based on the AVC-Intra codec, enabling high-quality HD recording with a camera-recorder.

In addition, it optionally supports proxy A/V data (MP4). This means that preliminary editing can start immediately by using the proxy data that is recorded together with the actual data. There is no need for off-line tape editing. Simply upload the project data created by the preliminary editing process and the actual data (AVC-Intra/DVCPRO HD) to the main editing system and replace the edited results with the actual data.* By eliminating the time otherwise required for processing, it lets you spend more time on improving content quality and applying creativity.

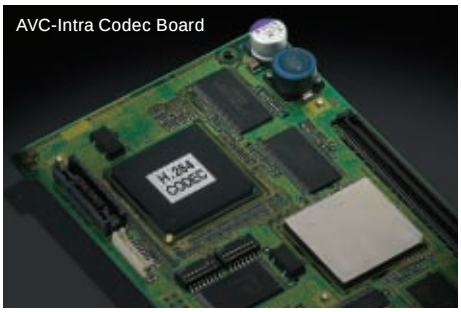


*Autoconform form sequence data edited by proxy: GrassValley EDIUS Broadcast series v4.5

*See page 18 in this catalog for information on P2 alliance partners.

Practical Application of the NewAVC-Intra Codec

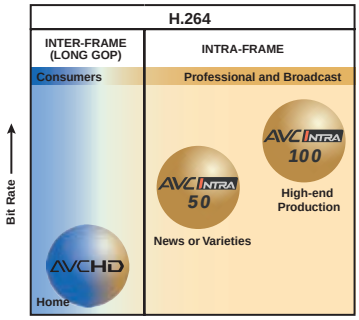
A New HD Production Style with Stunning Images and Excellent Efficiency



New AVC-Intra 100/AVC-Intra 50 Codec

AVC-Intra is a new codec that further advances HD production. It complies with the MPEG-4 AVC/H.264 international standard based on advanced motion-image compression technology, and offers both superb image quality and high compression. It uses an intra-frame compression system to bring important advantages to professional editing. Adding the optional AVC-Intra codec board to the AJ-HPX2000/AJ-HPX2100 P2HD camera-recorder or AJ-HPM100 mobile recorder lets you record and play back in AVC-Intra 100 or AVC-Intra 50 mode.

Modes od AVC-Intra Codec



AVC-Intra 100

With the same bit rate as DVCPRO HD - this mode supports full-HD recording with 1920 x 1080 pixels. It allows camera-recorders to capture high-quality, HD-D5-level images.

AVC-Intra 50

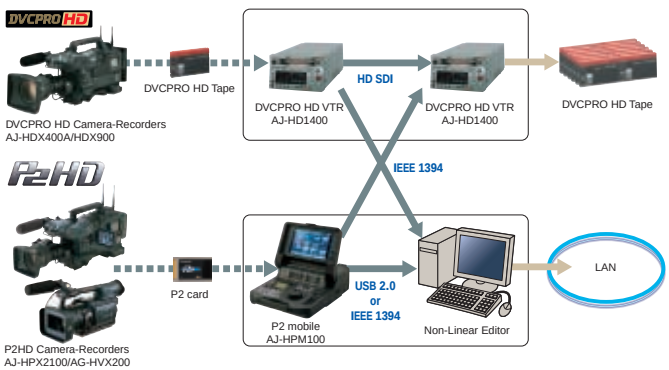
This mode delivers the same high picture quality as DVCPRO HD while using a bit rate similar to SD (DVCPRO 50). It also provides double the recording time of DVCPRO HD and allows quick data transfer and editing.

*The camera-recorder software must be upgraded to the latest version. The AVC-Intra codec is not supported by the AG-HVX200 or AG-HPX500.

The DVCPRO HD Codec Fits Smoothly into Your Current Environment

DVCPRO HD codec recording and playback are standard on the P2HD Series. The DVCPRO HD format, which stands at the apex of DVCPRO migration, uses 4:2:2 sampling to retain all color information and an intra-frame compression system just like that of AVC-Intra, supporting high-end video production with chromakey composition and high-precision editing. DVCPRO HD is widely used by broadcasting stations and movie companies around the world.

Because P2 files are recorded with the same codec as the DVCPRO family, degradation-free conversion between tape and file is possible using an IEEE 1394 digital interface. This lets the P2 cam fit smoothly into a tape-based production environment and also allows the use of DVCPRO HD materials in a P2-file-based broadcasting system. HD (SD)-SDI and analog interfaces are also provided for added flexibility.



AVC-Intra Technology

Intra-Frame (I-Only) Compression Superiority

Motion-image compression can be divided roughly into two methods: I-Only compression, which completes all processing within each frame, and Long GOP compression, which processes across multiple frames. AVC-Intra and DVCPRO HD use I-Only compression, while HDV uses Long GOP compression. The MPEG-4 AVC/H.264 standard encompasses both methods.

When the images of adjacent frames are similar, Long GOP compression achieves an advantageously low bit rate. However, this trait is not often seen in broadcasts like flash-filled press conferences, fast-action sports, and music shows with confetti and electronic displays.

Also, because processing is performed frame-by-frame in I-Only, new-generation multi-core CPUs offer high-speed parallel processing. This makes I-Only compression more suitable for nonlinear editing than Long GOP, for which parallel processing is difficult due to its inter-frame dependence.

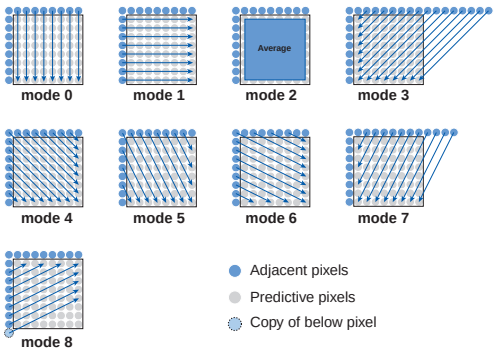
With its I-Only compression, AVC-Intra produces remarkably stable images that are unaffected by adjacent frames, and meets professional needs in virtually all situations and workflows.

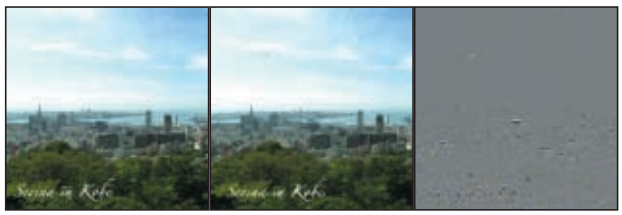
Twice the Compression Efficiency of MPEG-2

By selecting the most effective compression techniques from among those in compliance with the H.264 standard, AVC-Intra has doubled the compression ratio of MPEG-2, even with I-Only compression. Its intraframe predictive and context-adaptive entropy coding are particularly effective methods for boosting compression efficiency.

• Intraframe predictive coding (intra prediction)

This process generates predictive images based on adjacent blocks of 8 x 8 pixels. Selecting the most suitable predictive mode from among nine luminance signal modes (see illustration) and four color signal modes, it generates accurate predictive images. The residual data (obtained by subtracting a predictive image from the original input image) is recorded together with the predictive image. Because the prediction accuracy is high, there's minimal residual data, and thus high compression is achieved. This process is conducted within the frame, so prediction accuracy remains high even with fast-motion images.





(Left) Original image (Middle) Intraframe predictive image (Right) Difference image obtained from subtracting the intraframe predictive image from the original image. This shows the high accuracy of intra prediction.

• Context-adaptive entropy coding

The entropy coding process used in MPEG-4 AVC/H.264 utilizes CAVLC (Context Adaptive VLC) and CAVBAC (Context Adaptive Binary Arithmetic Coding), both of which are context adaptive. MPEG-2 uses a fixed table when performing the VLC coding, with the result that compression efficiency is low with some types of images. In context-adaptive coding, on the other hand, operation varies with different kinds of images and high compression efficiency is maintained at all times.

P2HD

High-End P2 Camcorder that Offers 1920 x 1080, 10-bit 4:2:2 Shooting

5 Year Warranty Repair Program*

AVC-Intra DVCPRO HD DVCPRO 50

AJ-HPX3000

New

Memory Card Camera-Recorder (P2 cam)

High-end image quality for 1080i or 1080p productions

- 2,200,000-pixel 2/3" CCD for full 1920 x 1080 HD images.
- Comes equipped with AVC-Intra codec board that supports AVC-Intra 100 and 50 modes. AVC-Intra 100 uses the same 10-bit 4:2:2 sampling as HD-D5 VCRs.
- Chromatic Aberration Compensation function compensates for registration error and minimizes lateral chromatic aberration in lenses.
- Switchable between 59.94 Hz and 50 Hz recording for use anywhere in the world.
- Switchable to DVCPRO HD codec recording; also supports SD recording with the DVCPRO 50 codec.
- High F10 sensitivity at 2,000 lx (at 1080i). Minimum illumination of 0.064 lx (at +56dB gain-up).
- 14-bit A/D processing, 12-pole linear matrix color correction function.
- DRS (Dynamic Range Stretcher) provides a wider dynamic range with minimal blown highlights and blocked shadows.
- F-REC mode Cine-gammma and scan-reverse function.
- 48-kHz/16-bit, 4-channel digital audio recording.

P2 Card Recording and Advanced Functions

- Five slots that accommodate 16GB P2 cards allow continuous recording, card selection, hot swapping, loop rec, pre-rec, interval rec and one-shot recording.
- Text memos and shot markers can be added.
- Proxy data recording possible (with the optional AJ-YAX800G).
- HD/SD-SDI input allows line recording (with the optional AJ-YA350AG).
- IEEE 1394a (AVC), USB2.0 (Host and Device) interface.
- Genlock input for HD-Y or VBS input use.
- Scene file, user buttons, user menu and focus assist functions.
- 2-wheel (ND and CC) optical filters.
- UniSlot wireless receiver slot.

AJ-HPX3000 Specification

Power Source :	DC12V, battery or DC input
Power Consumption :	43 W, when record with optional HD/SD-SDI input, LCD monitor off
Weight:	4.8 kg (10.5 lbs), main unit only
Dimensions (W x H x D):	137 x 209 x 318 mm (5-7/16" x 8-1/4" x 12-9/16") without handle and option cover

High-End P2 Camcorder that Offers DVCPRO HD (1080i/720p) Recording

5 Year Warranty Repair Program*

AVC-Intra DVCPRO HD DVCPRO 50 DVCPRO DV

AJ-HPX2000/2100

Memory Card Camera-Recorder (P2 cam)

High Sensitivity, High Quality HD/SD Recording

- DRS (Dynamic Range Stretcher) provides a wider dynamic range with minimal blown highlights and blocked shadows.
- HD Progressive 2/3" 3-CCD System.
- High sensitivity of F10 (at 2000 lx). Minimum illumination of 0.007 lx (at +74dB gain).
- 14-bit A/D processing and improved digital image processing technology.
- 12-pole linear matrix color correction function.
- DVCPRO HD (1080i and 720p) recording and playback. 59.94Hz/50Hz switchable for recording and playback in any HD system worldwide.
- SD (standard definition) codec (480/59.94i and 576/50i) supports DVCPRO 50, DVCPRO, and DV.
- 48kHz/16-bit, 4-channel digital audio recording.
- Line recording via HD/SD-SDI input (with the optional AJ-YA350G).
- Supports AVC-Intra codec (option board now under development).
- Scene file, user buttons, user menu, auto white balance with ATW.
- AJ-HPX2000: 4-Position Optical Filter.
- AJ-HPX2100: 2-wheel (ND and CC) Optical Filters.
- viewfinder marker function.
- high-speed electronic shutter with synchro scan.
- UniSlot wireless receiver slot.

Reliable P2 Recording and Advanced Functions

- Reliable recording onto P2 cards with high resistance to shock, vibration and temperature changes, and no risk of accidentally overwriting.
- Five P2 card slots allow continuous recording, card selection, hot-swap rec, loop rec and pre-rec.
- Immediate playback using a clip thumbnail display on the built-in LCD monitor.
- Text memos and shot markers can be added.
- Proxy data recording possible (with the optional AJ-YAX800G).
- IEEE 1394a (AVC), USB2.0 (Host and Device) interface.

AJ-HPX2000/2100 Specification

Power Source :	DC12V, battery or DC input
Power Consumption :	36 W, when record without option, LCD monitor off
Weight:	4.5 kg (9.9 lbs), main unit only, without VF mount
Dimensions (W x H x D):	137 x 209 x 317 mm (5-7/16" x 8-1/4" x 12-1/2") without handle and wireless option cover

* Register as a owner for this device to receive a special service warranty up to five years of free warranty repairs.

Superb Quality and Outstanding Cost-Performance — a P2HD Camera-Recorder for Video Professionals

5 Year Warranty Repair Program*

DVCPRO HD DVCPRO 50 DVCPRO DV

AG-HPX500

Memory Card Camera-Recorder (P2 cam)

P2 cam for Professional HD/SD Production

- Standard 2/3" interchangeable lens mount system.
- Chromatic Aberration Compensation function compensates for registration error and minimizes lateral chromatic aberration in lenses.
- APT (Advanced Progressive Technology) produces higher image quality with HD Progressive 3-CCD and 19-bit digital signal processor.
- 1080i and 720p HD recording using the DVCPRO HD codec for broadcast use assures both superior images and top reliability.
- 50Hz/60Hz selector function allows 1080/50i and 720/50p HD recording for PAL areas.
- SD (480i/576i) recording in DVCPRO 50, DVCPRO or DV multi-codec.
- Four slots that accommodate 16GB P2 cards allow continuous recording, card selection, hot swapping, loop rec, pre-rec, interval rec and one-shot recording.
- Text memos and shot markers can be added.
- 48-kHz/16-bit, 4-channel digital audio recording.

Variable Frame Rate Shooting and Variety of Interfaces

- Variable frame rate feature (in 720p, 11 steps) allows film-like low-speed or high-speed shooting.
- 720p native mode achieves a speed effect without requiring additional equipment. A VariCam-compatible 720p over 60p mode is also provided.
- Eight-mode gamma, includes two Cine-Like modes.
- Slow, syncro and high-speed shutter.
- Scene file, user buttons, user menu and focus assist functions.
- Output for HD/SD-SDI (BNC), Video (BNC) and Component (D4), with built-in downconverter.
- TC input/output provides multi-camera syncro shooting.
- IEEE 1394a (AVC, Host and Device), USB2.0 (Device) interface.
- DC power supply for the BT-LH80W LCD monitor.
- RCU terminal for optional AJ-RC10G remote control unit.

AG-HPX500 Specification

Power Source :	DC12V, battery or DC input
Power Consumption :	19 W, when record without option, LCD monitor on
Weight:	3.8 kg (8.4 lbs), without viewfinder 4.5 kg (9.9 lbs), with viewfinder
Dimensions (W x H x D):	140 x 261 x 318 mm (5-9/16" x 10-5/16" x 12-9/16") without handle

Handheld P2 Cam with Outstanding Mobility for News Acquisition and Video Production. Supports Variable Frame Rate Shooting.

DVCPRO HD DVCPRO 50 DVCPRO DV

AG-HVX200

Memory Card Camera-Recorder (P2 handheld)

High-Quality HD/SD Multi-Format P2 Recording

- Leica Dicomar*1 13x zoom lens. Internal OIS for hand-shake compensation.
- High-quality, high-sensitivity 1/3" progressive CCD, and high-performance DSP with 14-bit A/D conversion and 19-bit inner processing capability.
- HD recording in 1080/24p*2, 1080/60i and 720/60p. SD (480i) multi-codec recording in DVCPRO 50/DVCPRO/DV, with 16:9/4:3 aspect ratios.
- Multifunction P2 capabilities. Hot-swap (changing cards while recording), loop rec, pre-rec, one-shot rec, and interval rec functions.
- Immediate playback using a clip thumbnail display on the built-in LCD monitor.
- IEEE 1394/USB 2.0: Directly mountable to Mac/Windows nonlinear editors. IEEE 1394 output for synchro backup recording. 1394 host mode for copying files onto an external HD.

Variable Frame Rate Function and Professional Specifications

- 11-step frame rate selector for creative variable-speed shooting. Features 720p native mode and over 60p mode.
- Built-in DV tape drive. Allows DV recording, down-conversion recording from P2HD sources, and frame-rate conversion of clips recorded in native 720p.
- Auto or manual operation of cam-driven zoom, focus and aperture.
- Scene file, user buttons, white balance with ATW.
- Analogue component output, time-code setting via IEEE 1394, and camera remote function.
- XLR audio input terminals supporting 48-V phantom power supply, magnesium-alloy chassis, zebra, marker and tally lamp.

*1: Leica and Dicomar are registered trademarks of Leica Microsystems IR GmbH.
*2: 1080/24p is to be recorded in 1080/60i (pull-down).

AG-HVX200 Specification

Power Source :	DC7.2V / 7.9V, battery or DC input
Power Consumption :	11.6W (viewfinder), 12.0W (LCD), 14.0W (Max)
Weight:	2.5 kg (5.5 lbs), without battery and accessories
Dimensions (W x H x D):	168.5 x 180 x 390 mm (6-11/16" x 7-1/8" x 15-3/8") without prominent parts

P2HD

Fast P2 Viewing, Backup and File Management for Field Acquisition.

5 Year Warranty Repair Program*

DVCPRO HD DVCPRO 50 DVCPRO DV

AG-HPG10

New

Memory Card Camera-Recorder (P2 cam)

Plug & Play Convenience Comes to P2 Viewing

- With its two P2 card slots and LCD monitor, you have super-quick access to thumbnail displays and viewing of camera-recorded content.
- HD/SD-SDI output and component/composite output enable external monitoring and microwave feeds.
- Down-conversion (squeeze/letterbox/side cut) allows HD content to be viewed on an SD monitor.
- Multi-format, multi-codec, 59.94/60-Hz operation supports the HD/SD playback and recording* of the AG-HVX200.

*No recording possible (playback only) in 720pN (native) mode.

Versatile Backup Recording, File Copying, and More

- Records IEEE 1394 input onto P2 cards for camera-recorder backup.
- Copies P2 files onto an external hard disk via IEEE 1394 or USB 2.0 (host) interface.
- Uploads or downloads files to or from a PC-based nonlinear editor just like the P2 Drive, using the IEEE 1394 or USB 2.0 (device) interface.
- Repeat playback enables easy sales promotion or demonstration use.
- Supports simplified Wave Form Monitor and Vector Scope display

Compact, Lightweight, Battery-Operated Mobility

- At about 1.1 kg (approx. 2 lbs) for the main unit, the compact P2 Gear is easily carried with one hand.
- Battery-operation boosts convenience (with a 5400-mAh battery pack).
- AC power can be supplied via the AC adaptor (included).
- Highly reliable, durable memory card recording means no-moving-parts reliability, without the concerns of a tape mechanism.

AJ-HPG10G Specification

Power Source :	DC7.2V/7.9V Battery or DC IN
Power Consumption :	approx. 11W
Weight:	approx. 1.1 kg (2.4 lbs)
Dimensions (W x H x D):	104x 83 x 227 mm (4-1/8" x 3-5/16" x 8-15/16") without rubber shoes

Mobile HD/SD Recorder for Recording, Viewing, Editing and On-Air Playback

5 Year Warranty Repair Program*

AVC INTRA DVCPRO HD DVCPRO 50 DVCPRO DV

AJ-HPM100

Memory Card Recorder (P2 mobile)

HD/SD Multi-Format and Multi-Codec Recording

- DVCPRO HD (1080i and 720p) recording and playback. 59.94-Hz/50-Hz switchable for recording and playback in any HD system worldwide.
- 8-channel, high-quality digital audio.
- SD (standard definition) codec (480/60i and 576/50i) supports DVCPRO 50, DVCPRO, and DV.
- Built-in up-converter, down-converter and cross-converter for playback.
- Supports AVC-Intra codec (option board now under development).

Editing and On-Air Playback Functions

- Equipped with six P2 card slots and one SD card slot.
- Immediate playback using clip thumbnail display on 9" LCD monitor.
- Jog/shuttle dial and VTR-like operation buttons.
- Playlist function for simplified editing and on-air transmission of up to 100 events. Audio split also possible.
- Dubbing function (simplified voice-over function) for easy dialog addition.
- Equipped with large audio fader.

Mobile Body and Various Interface

- USB 2.0: Host/device dual-mode capability. In host mode, files can be copied onto an external hard disk.
- IEEE 1394a: Connection to DVCPRO HD equipment for transferring compressed HD/SD streams. Backup recording also possible.
- HD/SD switchable SDI IN/OUT.
- Analogue IN/OUT, RS-422A Remote IN, TC IN/OUT.
- Compact, lightweight, durable. DC or AC operation.

AJ-HPM100 Specification

Power Source :	AC100V to 240V, 50/60Hz/DC12V
Power Consumption :	AC: 60W/DC: 12V/4.3A (full-option)
Weight:	6.5 kg (14.3 lbs)
Dimensions (W x H x D):	301x 120 x 412 mm (11-13/16" x 4-12/16" x 16-1/4") without rubber shoes

* Register as a owner for this device to receive a special service warranty up to five years of free warranty repairs.

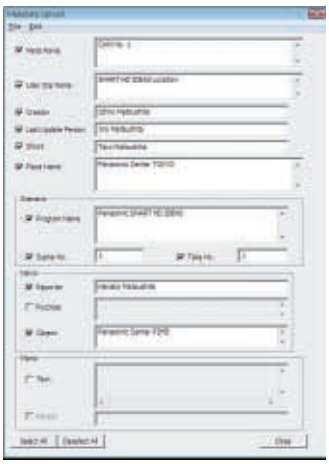
Supports P2HD. This Windows PC utility makes it easy to view and copy P2 files.

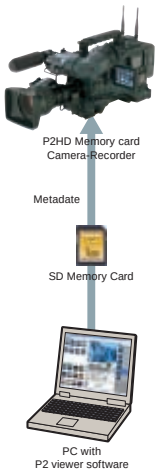
▲Window Vista Vertion

P2 Viewer 3.5

P2 Application Software (Downloadable for Free)

- Supports P2 clips (AVC-Intra, DVCPRO HD, DVCPRO 50, DVCPRO, DV) and proxy files.
- Displays shot markers, voice memos, HD 16:9 wide, and proxy clip information as thumbnail icons.
- Indicates metadata as tags in clip filtering displays.
- Displays the properties of each clip and allows certain properties to be edited.
- Lets you create metadata for uploading to a P2 cam using an SD Memory Card.
- Lets you play, delete, move, or write text memos and voice memos.
- Lets you copy clips to other P2 cards or hard disks.
- P2 users can download the latest version of this software from a special Web site, free of charge.
  (To download P2 Viewer: http://panasonic.biz/sav/p2/)





▲Metadata edit dialog

PC System Requirements for P2 Viewer 3.5

Operating System:	Microsoft® Windows 2000 (SP4 or later) Microsoft® Windows XP Professional (SP2 or later) Microsoft® Windows Vista (Business or later)
Requirements:	Microsoft® DirectX 9.0b or later must be installed. P2 driver must be installed.
Recommended PCs:	SD: Pentium 4, 1.5 GHz or higher; 512-MB RAM or more (1 GB or more for Windows Vista) HD: Pentium D, 3.2 GHz or higher; 1-GB RAM or more
Languages Supported:	Japanese, U.S. English, Chinese (automatic recognition)

*DVCPRO HD clips can only be played by PCs that are equipped with a CPU that supports SSE2 commands, such as Pentium M, Pentium 4, Pentium D, and Celeron D.

AJ-SPC700

Memory Card Camera-Recorder (P2 cam)

Cost-Efficient P2 Cam with Outstanding Mobility and Low Power Consumption

AJ-SPX800

Memory Card Camera-Recorder (P2 cam)

Full-Featured P2 Cam with High Sensitivity, Digital Super Gain and 24p/30p Shooting

AJ-SPX900

Memory Card Camera-Recorder (P2 cam)

Full-Featured P2 Cam with High Sensitivity, Digital Super Gain and 24p/30p Shooting

AJ-SPD850

Memory Card Recorder (P2 deck)

Ideal for Use in Existing Mobile Van and Studio Systems, with Playlist Editing Capability

P2HD

Large Data Storage Capacity, High Transfer Speed, Superb Reliability. Solid-State Memory Card for Professional Use

AJ-P2C016RG
AJ-P2C032RG

New

Memory Card (P2 card)

(will be available at the end of year 2007.)

A Large Data Storage Capacity and High Transfer Speed

- With four SD Memory Cards packaged into one, the P2 card offers four times the data storage capacity and four times the transfer speed of the SD Memory Card.
- The 16-GB card (AJ-P2C016RG) achieves a long recording time. Cards with larger capacities are scheduled for the future.
- A high data transfer speed of 640 Mbps maximum.
- Complies with the Type-II PC Card Standard (Card Bus) for direct plug-in to the PC card slot of laptop PCs*.
- The AV data for each cut is recorded as an MXF file.

High Reliability Withstands Repeated Use

- Highly reliable solid-state memory resists shock, vibration, and temperature changes.
- Solid-state memory offers withstands 10,000s of rewriting operations.
- An individual serial number, bar code, and write-protect switch ensures strict security.
- Thin PC-card size and ultra-light weight of 45 g.

* A P2 card driver (standard equipped) must be installed in the PC. The P2 card driver operates under Windows XP, Windows 2000, or Mac OS X.

P2 card Specification

Interface:	CardBus (PC Card standards)
Power Source/Consumption:	DC3.3V ±0.3V/Approx. 1.5W
Operating Temperature/Humidity:	–20 ˚C to 60˚C / 5% to 90% (no condensation)
Storage Temperature/Humidity:	–40 ˚C to 80˚C / 5% to 90% (no condensation)
Weight:	45 g
Dimensions (W x H x D):	54 x 5 x 85.6 mm

Capacity	AJ-P2C016RG	AJ-P2C032RG
Recording Capacity:*1	Approx. 16GB	Approx. 32GB

Rec/Play Time	AJ-P2C016RG	AJ-P2C032RG
AVC-Intra 100:	approx. 16 min.	approx. 32 min.
AVC-Intra 50:	approx. 32 min.	approx. 64 min.
DVCPRO HD:	approx. 16 min.	approx. 32 min.
DVCPRO 50:	approx. 32 min.	approx. 64 min.
DVCPRO/DV:	approx. 64 min.	approx. 128 min.

*1: Total card capacity includes space for data management such as system data, therefore, actual usable area is less than capacity indicated on the card.
*2: This data transfer speed is theoretical value. An actual data transfer speed varies according to operating condition and devices.

Portable Hard Disk Unit Copies P2 Card Data at High Speed

AJ-PCS060G

Portable Hard Disk Unit (P2 store)

High-Speed Copying from 15 P2 Cards (4 GB)

- A portable hard disk unit with a P2 card slot, P2 store quickly and easily copies data from P2 cards.
- P2 store can copy 4 GB of data in only about four minutes.
- P2 store also re-formats the cards so you can use them again right away.
- P2 store can copy up to 15 P2 cards on its 60-GB hard-disk drive.

Compact, Lightweight and Durable

- Small in size and weighing only about 650 g, P2 store offers outstanding portability.
- It runs on DC power, so you can use batteries or an AC adaptor.
- A special impact-absorbing material helps cushion the hard disk, and a shock-resistant magnesium alloy body provides overall protection.

USB 2.0 Connection Allows Use as an External Drive

- USB 2.0 connection makes it easy to link to a PC* or a P2 mobile.
- The PC will recognize up to 16 (including P2 card slot) data volumes.
- To help safeguard data, the volumes are read-only and cannot be accidentally overwritten.

*Supports Windows 2000/XP and Mac OS X. Mac computers with Intel CPUs are not supported.
*The hard-disk drive is a high-precision device, and partial damage, or in the worst case, the loss of data can occur under some operating conditions. Use the hard-disk drive for temporary storage of copied data until it can be backed up on other storage media. Do not consider the internal hard-disk drive as a permanent data storage device.
*No guarantee against data damage or loss is implied.

AJ-PCS060G Specification

Power Source :	DC 7.2 V with battery pack, DC 7.9 V with AC adaptor
Power Consumption :	Max. 1.3 A (0.8 A when standard oparation)
Weight:	0.65 kg (1.4 lbs)
Dimensions (W x H x D):	90 x 45 x 180.5 mm (3-9/16" x 1-13/16" x 7-1/8")
PC Interface:	USB Ver. 2.0 compliant, reed only
HDD Capacity:	60GB
PC System Requirement:	Microsoft® Windows XP Professional (later SP2) Microsoft® Windows 2000 (later SP4) Mac OS X (10.4.2, 10.4.6) for PowerPC* *with the exception of Intel CPU Mac OS X computers.

P2 Card Drive with IEEE 1394b/USB 2.0 Interface for Both Mac and Windows Use

AJ-PCD20

Memory Card Drive (P2 drive)

High-Speed Data Transfer via IEEE 1394b or USB 2.0

- The USB 2.0 interface enables high-speed transfer of data to a Windows-PC-based nonlinear editor*.
- The IEEE 1394b interface offers higher transfer speeds than IEEE 1394 (a). Data can also be transferred to a Mac OS nonlinear editor* at high speeds.
- Nonlinear editor software allows the AV data (MXF files) on a P2 card to be directly loaded as clips.
- High-speed data transfer to servers or hard disks.

Use Externally or Install It into Your PC

- Install the AJ-PCD20 into a 5-inch bay on a desktop PC* and use it as an internal PC drive.
- With the AC adaptor and a USB or IEEE 1394b cable, you can use it as a stand-alone external drive.

Five P2 Card Slots

- The AJ-PCD20's five PC card slots let you mount up to five P2 cards at the same time.
- This is especially convenient for editing a continuous clip recorded by a P2 cam in sequence onto multiple cards.

*A P2 card driver (standard equipped) must be installed in the PC. The P2 card driver operates under Windows XP, Windows 2000, or Mac OS X.

AJ-PCD20 Specification	
Power Source:	AC 100 V to 240 V (0.9A to 0.5A), 50/60 Hz DC 16 V (0.8 A) with AC adaptor DC 12 V (1.0 A) when PC built-in
Weight:	1.2 kg (2.6 lbs)
Dimensions (W x H x D):	148.4 x 42.5 x 199.5 mm, (5-7/8" x 1-11/16" x 7-7/8") excluding protruding parts
PC System Requirement	
Operating System:	Microsoft® Windows XP Professional (later SP2) Microsoft® Windows 2000 (later SP4) Macintosh OS X (10.3.9, 10.4.2, 10.4.6)
Main Memory:	512 MB or greater recommended
Interface:	IEEE 1394b and USB Ver. 2.0 compliant

Easy back-up of P2 files onto large-capacity Blu-ray Discs. Simplifies the management of P2 data on Windows or Macintosh systems

New

AJ-ZCM50BD

(not available in some areas.)

Blu-ray Disc Changer

- Holds up to 1.5 terabytes of data on thirty 50-GB Blu-ray Discs, which is equivalent to approximately 100 hours of DVCPRO/DV
- Compact size for desktop operation, with front loading convenience. Connects to a PC (Windows or Macintosh) with a single USB cable.
- Content management software (P2 CMS) included for managing P2 data, allowing easy back-up, automatic metadata registration, viewing, and text memo input.

Specifications	
Power Source:	100 to 240 VAC
Weight:	15kg (30.8 lbs)
Dimensions (W x H x D) :	350 x 260 x 400 mm (13-13/16" x 10-1/4" x 15-3/4")

*To use the Blu-ray Disc Changer, you must have an external PC with a Microsoft® Windows Vista, Microsoft® Windows XP Professional SP2, Mac OS X and USB 2.0 interface. Visit http://panasonic.biz/sav/ for the most recent information on PCs that have been confirmed as compatible with the Blu-ray Disc Changer.

This space-saving 5U archiving system lets you save and use up to 8 terabytes of P2 data.

AJ-ZCM100

(not available in some areas.)

Data Tape Library

- Holds 20 LTO-3 tape cartridges, for a total data capacity of 8 terabytes.
- Included hierarchical storage management (HSM) software lets you manage hard disk and cartridge data in hierarchical format.
- Cartridges can be confirmed and easily loaded or removed from the front panel.
- Offline management of removed cartridges allows the data from up to 100 cartridges (21 internal and 79 external) to be managed.

Specifications	
Power Source:	100 to 240 VAC, 50/60 Hz
Weight:	1 drive type: 32 kg (70.55 lbs), without cartridges 2 drive type: 34 kg (74.96 lbs), without cartridges
Dimensions (W x H x D):	675 x 430 x 220 mm (26-5/8" x 16-15/16" x 8-11-16")

To use the data tape library, you must have an external PC with a Windows Server 2003 OS, RAID hard disk drive, SCSI interface, serial port, and cache volume, plus one SCSI cable and one serial cable for connection. *Visit http://panasonic.biz/sav/ for the most recent information on PCs that have been confirmed as compatible with the AJ-ZCM100.

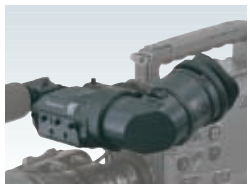
Optional Accessories

P2 cam (AJ-HPX3000/AJ-HPX2000/AJ-HPX2100/AJ-HPX500), P2 handheld (AG-HVX200) OPTIONS

AJ-HVF21G
2" HD EVF
59.94Hz/50Hz Switchable

AJ-VF20WB
2" EVF 16:9/4:3 Switchable

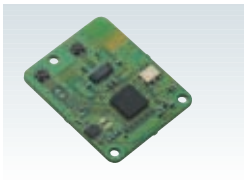
AJ-VF15B
1.5" EVF for 4:3



AG-VF11G
1.5" EVF
59.94Hz/ 50Hz Switchable

BT-LH80W
7.9" Wide LCD HD/SD Monitor

BT-CS80G
VF Cable
(Viewfinder Cable, DC Cable)



BT-YA80G
SDI Input Unit
(for BT-LH80W)

FIJINON 2/3" Zoom Lens

CANON 2/3" Zoom Lens

AJ-MC900G
Stereo Microphone

AJ-MC700
Microphone Kit

AG-MC200G
XLR microphone

ULTRA LIGHT
AntonBauer Ultra Light

Anton/Bauer Hytron

Anton/Bauer Dionic Batery

CGA-D54/CGA-D54s
Battery Pack (5.4 Ah)

AG-B25
AC adaptor kit for
AG-HVX200

AJ-SC900
Soft Carrying Case
*Not available in some area

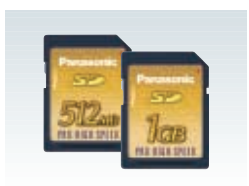
SHAN-RC700
Rain Cover
*Not available in some area

SHAN-TM700
Tripod Adaptre

AJ-GPS910G
GPS Unit

AJ-YAX800G
Video Encoder Card
*Camera-Recorder software upgrade is required.

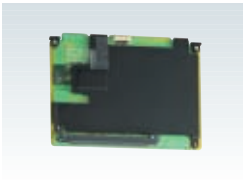
FireStore FS-100
Portable DTE Recorder
(FOCUS Enhancements, Inc.)



SD Memory Card

AJ-P2C016RG
AJ-P2C032RG
P2 Card

AJ-YBX200G
AVC-Intra Codec Board



AJ-YA350AG
HD/SD Input Board for AJ-HPX3000/AJ-HPX2000/ AJ-HPX2100

AJ-RC10G
RCU (Remote Control Unit) with 10m remote control cable

AJ-C10050G
Remote Control Cable (50 m)

P2 cam, P2 handheld options		AJ-HPX3000	AJ-HPX2000/2100	AG-HPX500	AG-HVX200
2" HD EVF	**AJ-HVF21G**	Yes	Yes		
2" EVF	**AJ-VF20WB**	Yes*1 *2	Yes*1 *2	Yes*2	
1.5" EVF	**AJ-VF15B**	Yes*1 *2	Yes*1 *2	Yes*2	
1.5" EVF	**AG-VF11G**			Yes*3	
7.9" Wide LCD HD/SD Monitor	**BT-LH80W**	Yes	Yes	Yes	
VF Cable set (for BT-LH80W)	**BT-CS80G**	Yes	Yes	Yes	
SDI Input Unit (for BT-LH80W)	**BT-YA80G**	Yes	Yes	Yes	
FIJINON 2/3" Zoom Lens		Yes	Yes	Yes	
CANON 2/3" Zoom Lens		Yes	Yes	Yes	
Stereo Microphone	**AJ-MC900G**	Yes	Yes		
Microphone Kit (monaural)	**AJ-MC700**			Yes	
Microphone Holder (monaural)	**AG-MC200G**			Yes	Yes
AntonBauer Ultra Light		Yes	Yes	Yes	
Anton/Bauer		Yes*4	Yes*4	Yes*4	
Battery Pack (5.4 Ah)	**CGA-D54/CGA-D54s**				Yes
AC adaptor kit	**AG-B25**				Yes
Soft Carrying Case	**AJ-SC900**	Yes	Yes	Yes	
Rain Cover	**SHAN-RC700**	Yes	Yes	Yes	
Tripod Adaptre	**SHAN-TM700**	Yes	Yes	Yes	
GPS Unit	**AJ-GPS910G**	Yes	Yes		
Video Encoder Card	**AJ-YAX800G**	Yes	Yes		
FOCUS Portable DTE Recorder "FireStore"	**FS-100**	Yes	Yes	Yes	Yes
SD Memory Card		Yes	Yes	Yes	Yes
P2 Card	**AJ-P2C016RG/ AJ-P2C032RG*6**	Yes	Yes*5	Yes	Yes*5
AVC-Intra Codec Board*5	**AJ-YBX200G**		Yes		
HD/SD Input Board	**AJ-YA350AG**	Yes	Yes		
RCU (Remote Control Unit)	**AJ-RC10G**	Yes	Yes	Yes	
Remote Control Cable (for AJ-RC10G)	**AJ-C10050G**	Yes	Yes	Yes	

Yes: It is possible to use it. *1: The MENU setting on the camera-recorder is required. Moreover, it becomes a down-converted image. *2: Only 60(59.94) Hz can be used.
*3: A supplied accessory for AG-HPX500. *4: The battery pack that the model can use respectively is different. *5: The camera-recorder software must be upgraded to the latest version. For details, visit https://eww.pavc.panasonic.co.jp/pro-av/ *6: *AJ-P2C032RG will be available at the end of year 2007.

P2 gear (AG-HPG10), P2 mobile (AJ-HPM100), P2 store (AJ-PCS060G), OPTIONS

CGA-D54/CGA-D54s
Battery Pack (5.4 Ah)

AG-B25
AC adaptor kit for AG-HVX200

AJ-YBX200G
AVC-Intra Codec Board

FireStore FS-100
Portable DTE Recorder
(FOCUS Enhancements, Inc.)

SD Memory Card

AJ-P2C016RG
AJ-P2C032RG
P2 Card

P2 gear, P2 mobile P2store options		AG-HPG10	AJ-HPM100	AJ-PCS060G
Battery Pack	**CGA-D54/CGA-D54s**	Yes		Yes
AC adaptor kit	**AG-B25**	Yes		Yes
AVC-Intra Codec Board*1	**AJ-YBX200G**		Yes	
FOCUS Portable DTE Recorder "FireStore"	**FS-100**	Yes	Yes	
SD Memory Card		Yes	Yes	
P2 Card*1	**AJ-P2C016RG/AJ-P2C032RG*2**	Yes	Yes	Yes

Yes: It is possible to use it. *1: The camera-recorder software must be upgraded to the latest version. For details, visit https://eww.pavc.panasonic.co.jp/pro-av/ *2: *AJ-P2C032RG will be available at the end of year 2007.

HD/SD LCD MONITORS

Panasonic LCD monitors help to maximize the mobility and comfort of a P2 production system. Select from three types. The 8.4" model also serves as an EVF in the field, and the attractively designed wide-screen 17" or large-screen 26" model saves space in OB vans or on the desktop. All models feature the superb image quality, high-speed response, wide viewing angle, and HD/SD multi-format capability that broadcast applications demand.

BT-LH80W
7.9" Wide LCD HD/SD Monitor

BT-LH900A
8.4" LCD HD/SD Monitor

BT-LH1700W
17" Wide LCD HD/SD Monitor

BT-LH2600W
26" Wide LCD HD/SD Monitor

The P2 Partners

Panasonic has long followed an "open mind" policy that ensures easy use with products made by other manufacturers via interfaces such as IEEE 1394. This gives users the enormous benefit of purchasing new equipment that's compatible with their current hardware and software just with minimum additional investment .

We've followed the same policy with the P2 card. Throughout its development, Panasonic has provided advanced information to other manufacturers to enable them to develop products that use the P2 card.

We call this collaboration the P2 Partners Program. Thanks to the P2 Partners, you'll be able to choose a wider variety of P2-compatible products from a number of manufacturers.

• Final Cut Studio 2
www.apple.com

• D³-Edit
www.dayang.com.cn/

• Grass Valley EDIUS Broadcast series
• Aurora Edit series
www.thomsongrassvalley.com

• Toboggan MediaTransfer
• The Scribe
www.mog-solutions.com

• DaletPlus News Suite
www.dalet.com

• Velocity NX/XNG
• NewsFlash FX
• NEXIO Server
www.broadcast.harris.com

• MXFTk
www.opencubetech.com

• Adobe CS3 Master Collection
• Adobe CS3 Production Premium
• Adobe Premiere Pro CS3
www.adobe.com

• CleanEdit
www.evs.tv/

• DVCPROHD SDK
• DVCPROHD Add-on for Mpeg Pro™
• AVC-Intra Transcoder
http://www.mainconcept.com/site/

• NewsBox HD
• sQ Server
• sQ Edit Plus
• iQ / eQ
www.quantel.com

• Précis News Production System
www.bitcentral.com

• FireStore FS-100
• ProxSys
www.focusinfo.com

• Matrox Axio HD/LE
• Matrox Axio RT.X2
www.matrox.com/

• FlipFactory
• Launch
www.telestream.net

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Canada	+1 905 624 5010
China	+86 10 6515 8828
(Hong Kong	+852 2313 0888)
Czech Republic	+420 236 032 552/511
Denmark	+45 43 20 08 57
Egypt	+20 2 3938151
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JQA-0443

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Factories of Systems Business Group have received ISO14001:2004-the Environmental Management System certification. (Except for 3rd party's peripherals.)

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SP-P2HDPE2

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